REMARKS:

In the Office Action dated February 1, 2008, claims 1-9, 11 and 12, in the above-identified U.S. patent application were rejected. Reconsideration of the rejections is respectfully requested in view of the above amendments and the following remarks. Claims 1-9, 11 and 12 remain in this application, claims 10 and 13-23 have been withdrawn and new claims 24 and 25 have been added to the application.

The office action indicates that an English translation of German application 103 26 302.0 has not been submitted. German application 103 26 302.0 is identical to the international application submitted on December 12, 2005.

The specification was objected to as including trademarks which are not capitalized. The specification has been amended to capitalize the trademarks and to include generic terminology where needed. In view of these amendments, applicants request that this objection be withdrawn.

Claim 7 was objected to as including trademarks which are not capitalized. Claim 7 has been amended to capitalize the trademarks. In view of these amendments, applicants request that this rejection be withdrawn.

Claims 1-9, 11 and 12 were rejected under 35 USC §112, second paragraph, as indefinite due to the language "nucleotide analog" and "pyrimidine nucleotide analog". Applicants respectfully point out that the terms "nucleotide analog" and "pyrimidine nucleotide analog" are well known in the art. In addition, page 2 of the present application indicates that the nucleotide analog building blocks can be for example PNA or LNA building blocks. New claim 24 recites PNA or LNA building blocks. In view of the above discussion and amendments, applicants request that this rejection be withdrawn.

Claims 1-9, 11 and 12 were rejected under 35 USC §103(a) as unpatentable over Tyagi, Weisburg and Nunnally. Tyagi discloses double-labeled nucleic acid detection probes, wherein the chromophores used for labeling may be identical (see col. 3, lines 45-48 and col. 4, lines 40-41). The described detection probes comprise a target recognition sequence of 7-140 nucleotides (see col. 5, line 25). The target recognition sequence is thereby flanked by regions which do not hybridize with the actual target sequence and have a length of 3-25 nucleotides. When the target recognition sequence of the probe does not hybridize with the target sequence, flanking regions establish a double strand by forming a hairpin-structure, i.e. they hybridize with each other. The chromophor, inter alia, is tetramethylrhodamine. Tyagi does not suggest or disclose a probe according to the present invention, whose target recognition sequence is flanked by 5'- and 3'-labeled pyrimidine nucleotide sequences, wherein the respective termini are coupled with rhodamine green. The present invention is a 5'- and 3'- terminally labeled nucleic acid probe whose target sequence (X1-X2...Xm) is separated from the terminal labels (M, M'), by pyrimidine sequences. The pyrimidine sequences result in a probe with improved sensitivity. Tyagi teaches probes with termini which can hybridize with each other by forming an intramolecular double strand. This means that the probe termini have to contain purine nucleotides as well as pyrimidine nucleotides in a sequence such that both ends are complementary with each other. Therefore, Tyagi teaches away from a probe whose target sequence (X1-X2...Xm) is separated from the terminal labels (M, M'), by pyrimidine sequences as the pyrimidine sequences would not hybridize to form an intramolecular double strand as required by Tyagi.

Weisburg does not cure the deficiencies in Tyagi as Weisburg (column 8) disclose nucleic acid probes which, at one termini, have repetitious sequences such as poly-thymine or poly-cytosine, which hybridize with a capture probe molecule. Thus, neither Weisburg nor Tyagi suggest or disclose that a probe whose target sequence (X1-X2...Xm) is separated from the terminal labels (M, M'), by pyrimidine sequences, will have increased sensitivity. Weisburg does not suggest probes that are 5'- **and** 3'-flanked by oligo pyrimidine nucleotides and additionally labelled at both termini with a chromophor. One skilled in the art would not modify Weisburg's capture and/or immobilized probes to include pyrimidine sequences and chromophors at both termini as such probes would result in a detectable result regardless of whether the target sequence hybridizes. Combining Tyagi with Weisburg would result in a probe construct whose respective termini comprise labeled homo-polymeric nucleotide sequences which are complementary with each other in order to hybridize with each other. Since homo-polymeric pyrimidine nucleotide sequences cannot be complementary with each other, the combination of Tyagi and Weisburg leads away from the present invention.

Nunnally does not cure the deficiencies in Tyagi and Weisburg as Nunnally only describes different fluorescence dyes which may be used for labeling probes in DNA sequencing. Rhodamine green is listed as a possible dye but Nunnally does not suggest or disclose a probe whose target sequence (X1-X2...Xm) is separated from the terminal labels (M, M'), by pyrimidine sequences or suggest that such probes would have increased sensitivity. Since the combination of Tyagi, Weisburg and Nunnally does not suggest or disclose a probe molecule where the target recognition sequence X_1-X_m comprises 5'- as

well as 3'-labeled oligo pyrimidine nucleotides, applicants request that this rejection be withdrawn.

Applicants respectfully submit that all of claims 1-9, 11, 12, 24 and 25 are now in condition for allowance. If it is believed that the application is not in condition for allowance, it is respectfully requested that the undersigned attorney be contacted at the telephone number below.

In the event this paper is not considered to be timely filed, the Applicant respectfully petitions for an appropriate extension of time. Any fee for such an extension together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

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